Timber.

# Lloyd's Register of Shipping.

## SURVEYS FOR FREEBOARD.

### (COMPUTATION FOR STEAMER, SAILING SHIP, TANKER.)

| Ship's Name | Official Number | Nationality and Port of Registry | Gross Tonnage | Date of Build |
|---|---|---|---|---|
| "Crown Arun" | 167367 | British London | 2392 | |

Port of Survey — Leith
Date of Survey — 1st December 1939
Surveyor's Signature — John Houston
Particulars of Classification — 100A—

Moulded Dimensions : Length 287·1  Breadth 44·95  Depth 19·68

Moulded displacement at moulded draught = 85 per cent. of moulded depth ........ tons

Coefficient of fineness for use with Tables

### Depth for Freeboard (D).

Moulded depth ... ... ...
Stringer plate ... ... ...
Sheathing on exposed deck
$T\left(\dfrac{L-S}{L}\right)=$

Depth for Freeboard (D) = 19.71

### Depth correction.

(a) Where D is greater than Table depth
(D — Table depth) R = +1·26

(b) Where D is less than Table depth (if allowed)
(Table depth — D) R =

If restricted by superstructures

### Round of Beam correction.

Moulded Breadth (B)

Standard Round of Beam = $\dfrac{B \times 12}{50}$ =

Ship's Round of Beam =

Difference

Restricted to

Correction = $\dfrac{Diff^*}{4} \times \left(1 - \dfrac{S_1}{L}\right)$ = Nil

### DEDUCTION FOR SUPERSTRUCTURES.

| | Mean Covered Length (S) | Equivalent Enclosed Length (S₁) | Height | Height Correction | Effective Length (E) |
|---|---|---|---|---|---|
| Poop enclosed ... ... | 22·1 | | 7·5 | | |
| „ overhang... ... | | | | | |
| R.Q.D. enclosed ... | 94·5 | | 4·27 | | |
| „ overhang ... | | | | | |
| Bridge enclosed... ... | 109·3 | | 7·5 | | |
| „ overhang aft ... | | | | | |
| „ overhang forward | | | | | |
| F'cle enclosed equivlt. | 24·02 | | 7·5 | | |
| „ overhang ... ... | | | | | |
| Trunk aft ... ... | | | | | |
| „ forward ... | | | | | |
| Tonnage opening aft ... | | | | | |
| „ forward | | | | | |
| Total ... ... | | | | | |

Standard Height of Superstructure ........ 6·37
„ „ R.Q.D. ........ 4·49
Deduction for complete superstructure ........ 34·47
Percentage covered $\dfrac{S}{L}$ =
„ „ $\dfrac{S_1}{L}$ =
„ „ $\dfrac{E}{L}$ = 81·63
Percentage from Table, line A. Timber 88·52
(corrected for absence of forecastle (if required))
Percentage from Table, Line B.
(corrected for absence of forecastle (if required))
Interpolation for bridge less than ·2L (if required)

Deduction = $34.47 \times .8852 = -30.52$

### SHEER CORRECTION.

| Station | Standard Ordinate | S M | Product | Actual Ordinate | Effective Ordinate | S M | Product |
|---|---|---|---|---|---|---|---|
| A.P. ... ... | | 1 | | | | 1 | |
| ⅛L from A.P. ... | | 4 | | | | 4 | |
| ¼L „ ... | | 2 | | | | 2 | |
| Amidships ... | | 4 | | | | 4 | |
| ¾L from F.P. ... | | 2 | | | | 2 | |
| ⅞L „ ... | | 4 | | | | 4 | |
| F.P. ... ... | | 1 | | | | 1 | |
| Total ... | | | | | | | |

Mean actual sheer aft = 
Mean standard sheer aft

Mean actual sheer forward = 
Mean standard sheer forward

Length of enclosed superstructure $\dfrac{\text{forward of amidships}}{L}$ =
aft of „ =

Correction = $\dfrac{\text{Difference between sums of products}}{18} \left(·75 - \dfrac{S}{2L}\right)$ = −·08

If limited on account of midship superstructure.

If limited to maximum allowance of 1½ ins. per 100 ft.

### Deduction for Tropical Freeboard. Addition for Winter and Winter North Atlantic Freeboard.

| | Ft. |
|---|---|
| Depth to Freeboard Deck = | 19·71 |
| Summer freeboard = | 1·12 |
| Moulded draught (d) = | 18·59 |

Deduction for Tropical freeboard and addition for
Winter freeboard = $\dfrac{d}{4}$ inches = 4·65 = 4¾

Addition for Winter North Atlantic Freeboard (if required) = $\dfrac{d}{3}$ = 6·19 = 6¼

### Deduction for Fresh Water.

Displacement in salt water at summer load water line
$\Delta$ = 5388

Tons per inch immersion at summer load water line
T = 26·87

Deduction = $\dfrac{\Delta}{40 \text{ T}}$ inches
= 5·01 = 5"

### TABULAR FREEBOARD corrected for Flush Deck (if required) — 40·33

Correction for coefficient $\dfrac{·764 + ·68}{1·36} = \dfrac{1·444}{1·36}$ — 42·87

| | + | − |
|---|---|---|
| Depth Correction | 1·26 | |
| Deduction for superstructures | | 30·52 |
| Sheer correction | | ·08 |
| Round of Beam correction ... | | |
| Correction for Thickness of Deck amidships | | |
| Other corrections, scantlings, etc. | | |
| | 1·26 | 30·60 |

− 29·34

Summer Freeboard = 13·48

Timber SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, Wood, Steel, Deck :—

| | | |
|---|---|---|
| Timber Tropical Fresh Water Line above Centre of Disc ... | 13½ | 1'-1½ |
| Fresh Water Line „ „ | 8¾ | 0'-3¾ |
| Tropical Line „ „ | 8½ | 0'-8½ |
| Winter Line below „ | 2½ | 0'-8¾ |
| Winter North Atlantic Line „ „ | 6½ | 1'-7¾ |
| Summer above „ | 3¾ | 1'-11¾ |

Timber Tropical Fresh Water Freeboard ...
„ Fresh Water
„ Tropical
„ Winter
„ Winter North Atlantic